



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/664,405

09/16/2003

Javit A. Drake

08935-299001 / M-5033

3194

26161 7590 08/04/2009
FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER

HODGE, ROBERT W

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

08/04/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 10/664,405	Applicant(s) DRAKE ET AL.	
	Examiner ROBERT HODGE	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) 2-7 and 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8-12 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/6/09 has been entered.

Response to Arguments

Applicant's arguments, see Remarks and Amendments, filed 7/6/09, with respect to the prior art rejections, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 6,506,513.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-11 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9-11 recites the limitation "the heating element" in the first line of the claims. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites that the "heat producing element disposed in the fuel egress port". Then claims 10 and 11 recite that the heating element is in the interior of the cartridge. It is unclear as to the exact location of the heating element in claims 10 and 11 since as first recited the element is in a port and then it is in the interior of the cartridge. The element in question can only be in one location at a time. If applicant is trying to recite that two elements are present then the question of new matter will be raised.

Claim 15 depends from canceled claim 13 and is therefore indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 8 and 11 are rejected under 35 U.S.C. 102(a/e) as being anticipated by U.S. Patent No. 6,506,513 hereinafter Yonetsu.

As seen in the figures, Yonetsu teaches a fuel cartridge, that is prismatic in shape, having a housing 1, a fuel egress port 3 that contains a heat producing element “a” (i.e. vaporizing plate, Figure 2), which is also in the interior of the cartridge (figures 13-14B) and spaces a vapor portion of the cartridge from a liquid reservoir of the cartridge, a bladder 16 (figure 7B) that holds a liquid fuel 7 such as methanol (column 5, lines 4-8) that is supplied to a direct methanol fuel cell 2 (column 2, line 34 – column 3, line 19, column 4, line 26 – column 5, line 35 and column 7, line 47 – column 7 line 62).

Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pre-Grant Publication No. 2004/0202904 hereinafter Gore.

As seen in figures 2 and 2A-2C, Gore teaches a fuel cartridge 206 having a housing 230, a heat producing element (i.e. wire) 208, disposed in the cartridge and in thermal communication with the cartridge (paragraphs [0039]-[0051]). Gore further teaches powering the heat-producing element with a battery (paragraph [0031]).

Claim Rejections - 35 USC § 103

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonetsu as applied to claim 1 above, and further in view of Gore.

Yonetsu does not teach that the heat producing element is a wire.

Gore as discussed above is incorporated herein.

At the time of the invention it would have been obvious to one having ordinary skill in the art to use a wire for the heat-producing element in the fuel cartridge of Yonetsu as taught by Gore in order to vaporize the methanol in the cartridge before

Art Unit: 1795

entering the anode of the direct methanol fuel cell of Yonetsu especially during startup when the fuel cell is cold, so that the rate of reaction can be accelerated in the direct methanol fuel cell of Yonetsu thus increasing the overall efficiency of the cartridge and fuel cell system of Yonetsu. If a technique has been used to improve one device (using a wire for the heat-producing element in a fuel cartridge), and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way (vaporizing the methanol in the cartridge before entering the anode of the direct methanol fuel cell especially during startup when the fuel cell is cold so that the rate of reaction can be accelerated in the direct methanol fuel cell thus increasing the overall efficiency of the cartridge and fuel cell system), using the technique is obvious unless its actual application is beyond his or her skill. See MPEP 2141 (III) Rationale C, KSR v. Teleflex (Supreme Court 2007).

Claims 12, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonetsu.

Yonetsu as discussed above is incorporated herein. Yonetsu further teaches in figure 7A a piston 30 (i.e. fuel sealing part) urged against the fuel via spring 14 (column 7, lines 48-62).

Yonetsu does not teach the piston and the bladder in the same embodiment.

At the time of the invention it would have been obvious to one having ordinary skill in the art to combine the embodiments of figures 7A and 7B of Yonetsu in order to provide a fuel cartridge with multiple solutions for properly containing the methanol fuel as well as providing sufficient means to push out the fuel through the fuel outlet port

Art Unit: 1795

thereby providing the necessary fuel to the fuel cell in order for the fuel cell to operate.

The above combination such as a piston urged against a bladder, according to known methods by Yonetsu yields the predictable result of providing a sufficient means to push out the fuel through the fuel outlet port thereby providing the necessary fuel to the fuel cell in order for the fuel cell to operate. See MPEP 2141 (III) Rationale A, KSR v.

Teleflex (Supreme Court 2007). See also Boston Scientific Inc. v. Cordis Corp. (Fed. Cir. 2009) 89 USPQ2d 1704.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 8, 12 and 17 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11 and 12 of

Art Unit: 1795

copending Application No. 10/664,818. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of copending Application No. 10/664,818 fully encompass the scope of instant claims the only difference is the instant claims provide further structure which has been found in the prior art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/
Examiner, Art Unit 1795